

Serial No. 09/839,941

RD-27,966-2

In the Claims:

Marked-up versions of amended Claims 1 and 59 are provided in Attachment A, submitted herewith.

Please substitute the following for pending Claim 1:

- Sub
D1
C1
1. (Three times amended) A photodetector, said photodetector, comprising:
- a) a substrate, said substrate comprising a single crystal gallium nitride wafer having a dislocation density of less than about 10^3 cm^{-2} , wherein said gallium nitride wafer is grown by precipitating gallium nitride onto one of at least one gallium nitride crystal, a gallium nitride boule, and a gallium nitride crystal seed;
 - b) at least one active layer disposed on said substrate; and
 - c) at least one conductive contact structure affixed to at least one of said substrate and said at least one active layer.

Please substitute the following for pending Claim 59:

- Sub
D1
C2
59. (Twice amended) A photodetector, said photodetector comprising:
- a) a gallium nitride substrate, said gallium nitride substrate comprising a single crystal gallium nitride wafer having a dislocation density of less than about 10^5 cm^{-2} , wherein said single crystal gallium nitride wafer is grown by precipitating gallium nitride onto one of at least one gallium nitride crystal, a gallium nitride boule, and a gallium nitride crystal seed;
 - b) at least one active layer disposed on said gallium nitride substrate, said at least one active layer comprising $\text{Ga}_{1-x-y}\text{Al}_x\text{In}_y\text{N}_{1-z-w}\text{P}_z\text{As}_w$, wherein $0 \leq x, y, z, w \leq 1$ and at least one of x and y have a non-zero value, wherein $0 < x + y \leq 1$, and $0 \leq z + w \leq 1$; and

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C2 c) at least one conductive contact structure affixed to at least one of said gallium nitride substrate and said at least one active layer.
